

**The Economic Impact of Ecotourism on the  
Malheur National Wildlife Refuge Area, Oregon  
1993-1994**

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**EXECUTIVE SUMMARY**

A study of the economic impact of ecotourism and the demographics of ecotourists was conducted at Malheur National Wildlife Refuge, Oregon, from June 1993-May 1994. The study focused on birding ecotourism because that is the primary user group that visits Malheur. A total of 481 questionnaires were completed from a total of about 39,750 annual birding ecotourists. Birders who visit Malheur tended to be middle aged (30's-40's), well educated (85.4% had attended some college), had incomes that were well above the national family average (~~34.5%~~ had incomes in excess of 43.8% \$50,000 per year), and women and men are about equally represented. A majority did not fish or hunt. Visitors came from 28 states, 3 foreign countries, and 30 counties in Oregon. Forty-five percent of visitors were from out of state and 88% stayed more than one day in the area. Visitors averaged 3.4 days in the area. The average amount spent on their entire trips to and from Malheur averaged about \$300 and totaled \$12,282,750. The economic impact on the local communities was estimated to be nearly \$3.02 million in that year with \$882,251 being spent on lodging, \$298,061 spent on meals, \$180,664 for gas, and \$1.66 million for other purchases. The average visitor was worth between \$34 and \$76 dollars to the local economy. Birders and other ecotourists are an important economic factor in the Malheur area economy and they visit the area because of the National Wildlife Refuge. Recommendations for improving marketing strategies are suggested along with better public relations efforts on the part of the refuge staff and chamber of commerce regarding the economic role of the refuge in the area. No federal dollars were spent on this study.

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## Introduction

Ecotourism is holiday travel that focuses on the natural environment. It has been said that ecotourism is responsible travel that results in sustainable economic development, while conserving the environment. The rationale behind ecotourism development differs, depending upon whether the developer assumes a business perspective or an environmental perspective. Whichever perspective one takes, ecotourism is one of the few ways that wildlife, wilderness, and open space can be used for economic gain, while still preserving the resource. For the business person who wishes to gain from ecotourism, the environment is viewed as a resource (an inventory) that must be protected for long-term, sustainable profit. For the environmentalist, ecotourism is a tool to protect a resource, by substituting a relatively harmless form of economic development for a more harmful (and less sustainable) form.

Originally conceived as a means to protect wildlife in Africa, ecotourism is now being touted as a means to protect the rainforests of South America, the rivers of Asia, and open space here in North America. There are many forms of ecotourism. Birding or bird watching is one of the most common and practically all types of ecotourism at one time or another derives aesthetic pleasure from looking at birds. Birding ecotourism is also called avitourism.

Studies of ecotourism have, for the most part, focused on protecting the resource. That is, how ecotourists negatively impact the lives of wildlife, how they degrade the environment, how many ecotourists an area can support, how ecotourists influence native people, and how to minimize the impact of ecotourists. These aspects of ecotourism have been amply covered (Whelan 1991). The current study focuses more on providing information that can be used to plan ecotourism development in an area (Dixon and Sherman 1990, Kerlinger 1993a, 1993b). The key to making ecotourism successful as a conservation tool is economic success. Without economic benefit to surrounding communities, the establishment of new refuges and enlargement of established refuges will be jeopardized. This study and others like it (Butler and Hvenegaard 1986, Kerlinger and Wiedner 1991, Eubanks et al. 1993, Kerlinger and Brett 1994) will provide a useful resource for business.

Malheur National Wildlife Refuge is an important ecotourism destination with tens of thousands of ecotourists traveling to the refuge each year. Located in southeastern Oregon, the refuge has a variety of habitats, primarily freshwater marshes along with high desert, alkali playa, and sage brush. A large majority of visitors to Malheur are there to see birds and virtually all of them will see birds during their stay at the refuge. The primary draw of the refuge is its diversity. In early spring, waterfowl and cranes migrate through, making an unforgettable spectacle. At other times of the year vagrants from the eastern United States make their appearance, with the birders

constantly seeking them out. At other times the Trumpeter Swans and Sandhill Cranes, as well as the grassland birds make for fine birding experiences.

During 1993-1994, a study was conducted at Malheur National Wildlife Refuge to learn more about those people who visited the refuge and to determine their economic impact on the local area. Refuge officials, environmentalists, and tourism experts wanted to know more about the economics of ecotourism at specific sites as well as the demographics of ecotourists. A 34 item questionnaire was developed in early 1993 and distributed to visitors to the refuge from June 1993 through May 1994 (Appendix I). A total of 481 questionnaires were completed.

The results of this study are reported below. Information in this report will prove useful to members of both business and environmental communities, as well as to refuge staff. Planners, land-use managers, chambers of commerce, elected officials, and business owners all stand to profit from the development of well-planned ecotourism in areas with resources that will attract ecotourists. Environmentalists and agency staff can use the information as a public relations tool to show how important refuges are to host communities. Refuge staff from Malheur and other refuges who wish to provide better services to visitors and users can also use this report. Furthermore, the information provided by this study can be used to educate the public as to the economic importance of public open space and to dispel the myth that refuges are deleterious to the economic growth and stability of an area.

### **Acknowledgments**

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## Results

### Demographics

Ecotourists who visit Malheur National Wildlife Refuge were similar to those observed in studies at Cape May, New Jersey; Hawk Mountain, Pennsylvania; and High Island, Texas, with some exceptions. A nearly equal number of men and women visit the refuge (52.0% male), which is very different from hunting (92% male) and fishing (72% male) (U.S. Dept. of the Interior 1993). The percentage of American males who participate in nonconsumptive wildlife-associated recreation was reported to be 51-53% in 1991, very close to the 52% figure for ecotourists visiting Malheur (USDI 1993).

The average age of respondents was in the mid-40's, with women averaging 43 years and men averaging 44 years. Nearly 60% (59.3%) of the sample were between the ages of 31 and 49. Only 14.7% were 30 years old or younger and 24.2% were between 51 and 70 years of age. ~~Seventeen~~ <sup>Seventy-five</sup> (17.1%) were retired. Average age for retirees was 62 and for non-retirees it was 40. There was no difference evident between average age of male and female retirees.

Excluding students, incomes of visitors to Malheur NWR were well above the national average. More than nine percent (9.3%) earned more than \$100,000 per year in family income. Another 34.5% earned more than \$50,000. Only 14.2% earned less than \$25,000.

Education levels among respondents were, perhaps, the single most exceptional characteristic. Such high levels of education were unexpected. A resounding 85.2% had attended a 4-year college and only 5.9% had no college. More than half the respondents (51.3%) had attended graduate school. There were virtually no respondents without a high school degree.

Respondents came from 28 states (including Oregon) and 3 foreign countries (1.5% of respondents). Foreign countries included Canada, Australia, and Switzerland. States adjoining Oregon were well represented with about 32% of the respondents. Fifty-five (12%) respondents were not from adjoining states or foreign countries. Fourteen states from east of the Mississippi were represented.

Fifty-five percent of respondents were from Oregon. Thirty different counties from Oregon were represented. Multnomah County had the largest percentage of responses (25.3%) followed by Lane County (18.2%), both in western Oregon. Only 5.9% of Oregonians who responded came from counties adjoining Malheur NWR.

Overall, visitors to Malheur NWR were older than the reported ages of hunters and anglers (USDI 1993). They were also better educated and had higher incomes.

These demographics show that this group, as a consumer body, are a very targetable group for ecotourism marketing. With this in mind, more marketing strategies should be refined to reflect the sophisticated nature of birders.

### Ecotourism/Birding Characteristics

Perhaps the best measure of birding activity is the number of days in the field. Slightly more than 10% of respondents said they spent more than 50 days birding during the previous year. Some spent more than 200 days in the field. Most typical is the group who spent 16-50 days in the field, 49.4% of the respondents to the question. Another large group (40.9%) spent between 1 and 15 days in the field. The average was 54 days. This is slightly less than one-half the 93 days reported in a national study of active birders (Wiedner and Kerlinger 1990).

Activity level can also be measured by the number of overnight trips taken for birding. Some 39.9% of respondents did not make overnight birding trips in the previous year. Slightly less than 40% (38.5%) made 1-3 overnight trips during the previous year and another 11.4% made 4-6 overnight birding trips. Only 3.1% made overnight trips of greater than 15 days.

A second measure of interest in birding and level of participation is the cost and type of binoculars used by a respondent. Active birders use expensive optics. Twenty-seven types (brand names) of binoculars were listed.

Ancillary to the number of overnight trips they make is the number of national wildlife refuges they visited within the previous year and which ones they visited. A total of 75 national wildlife refuges was listed by the 242 (50.3%) respondents who said they visited other refuges. The average number visited for that group was 3. Most frequently listed was Klamath Forest NWR, Nisqually NWR, Finley NWR, Ridgefield NWR, and Hart Mountain NWR.

Nearly one-third of the sample (30.3%) purchased duck stamps. However, only one-fifth (21.1%) of respondents were hunters. This means that a large proportion of those who purchase duck stamps do not hunt. The duck stamp allows the holder to enter any national wildlife refuge (some refuges have entry fees) without paying an entry fee. Nearly 42% fished.

An interesting example of the willingness of birders to financially support conservation is their annual expenditure for membership in wildlife organizations (Kellert 1985, Wauer 1991). Among the respondents 44.4% belonged to conservation organizations. An average of 1.6 organization (0.6 for entire sample) memberships per person was reported. At \$30 per membership this amounts to \$715,500 with National Audubon Society having the greatest representation (142 or 214 respondents who

belonged to organizations) of 34 organizations listed. The next three most commonly listed were the American Birding Association (42 responses), Oregon Field Ornithologists (27), and the Portland Audubon Society (a chapter of the National Audubon Society).

### **Trip Description**

Trips to Malheur NWR are often part of a larger trip, which includes other birding or ecotourism destinations. Fifty-two other sites were listed on the questionnaires. The most frequently mentioned were Hart Mountain National Wildlife Refuge, Klamath Forest National Wildlife Refuge, Fields (a mixture of private and BLM holdings), Summer Lake Wildlife Management Area (Oregon), and Alvord Desert (a mixture of private and BLM holdings). All are within 100 miles of Malheur NWR. These sites were listed 88 times by respondents. Among the 481 respondents, 166 (34.5%) responded that they visited another birding site during their trip to Malheur.

Of the 481 respondents, only 3.3% used air travel during their trip to Malheur NWR and 4.0% rented an automobile during their trip. The remainder used various forms of motor vehicle (automobile, truck, or recreational vehicle).

Birding was not always the only form of ecotourism enjoyed by visitors to Malheur NWR. When asked to list other interests in the area 74.9% indicated that they had interests in the area other than birding. The top five responses were scenery (24.0%), wildlife (22.6%), geology (22.0%), hiking (17.0%), and botanizing (15.2%).

### **Visitation**

In 1993, 39,750 birder/ecotourists came to Malheur NWR (Refuge statistic). The numbers of questionnaires completed per month corresponded almost perfectly to the numbers of visitors to the refuge in that month, showing that the sample was representative of the entire year. January and December are the months with the fewest visitors and are the only months when fewer than 1,000 people were tallied. May through July receives the heaviest visitation (48.6% of the annual total), with visitation being roughly equal during those months. April and August are the next highest in visitation.

Among visitors slightly less than half (46.4%) said that it was their first trip to the refuge. First time visitation frequency was proportional to total visitation, when considered on a monthly basis.

Few birders visited the refuge alone (13.6%). The most common group size was three to six people (51.2 percent of responses). The average size group consisted of 3.4 people. About 11% were in groups greater than 15. Very few organized, ecotour groups

(private companies) visit Malheur NWR.

About one-half of visitors are accompanied by their spouses (241 of 481). Ninety percent stated that their spouses were at Malheur for the same reason, birding. The other ten percent were divided among reading, sight-seeing, and "other." Birding travel seems to be an activity that couples or spouses enjoy doing together.

Because Malheur NWR is located in such a remote area, a majority of visitors must stay over night either during their trip or near the refuge. Day tripping is minimal. Of 481 respondents, 423 (87.9%) responded that they stayed more than one day in the area. Two day trips were most common, although the average response was 3.4 days. It was surprising that so many people (135 respondents, 31.9%) spent 4-10 days in the area. This is why the mean is greater than the modal response of 2 days.

Accommodation types were provided by 459 of 481 respondents (95.4%). Of the 459, 53.2% responded that they were camping, 39.9% responded that they were staying in a hotel or motel, and the remainder listed "other." A total of 10 different hotels or motels were listed, 9 campsites, and 1 field station. Page Springs campsite was listed most often, followed by Fish Lake, Camper Corral, and Idlewild. All these campsites have nightly or weekly camping fees. A small number (13) listed "remote" campsites, which do not charge. The French Glen Hotel was the most commonly listed hotel/motel, followed by Motel 6, Diamond Hotel, Royal Inn, Silver Spur, Best Western, Orbit Motel, and the Ponderosa Motel. Malheur NWR field station was also listed.

The average number of nights listed by campers was 3, while it was only 2 for those staying in motels.

Nearly three-quarters (72.1%) of all respondents purchased at least one meal in the Malheur area. An average of 2.6 meals was purchased by this group. A majority purchased only 1-3 meals (198 of 338 respondents, 58.6%). Another 28.7% purchased 4-6 meals and the remaining 12.7% purchased >7 meals during their stay.

A total of 21 restaurants was listed by respondents. The most often mentioned was the French Glen Hotel (128 responses), followed by Jerry's, Ye Olde Castle, Pine Room, and Diamond Hotel. Of the 347 respondents who said they purchased meals, nearly one-third ate at the French Glen Hotel.



## Economic Impact

Economic impact to the local community was determined via a compartmental model with (i) lodging/accommodations, (ii) food/restaurants, (iii) gasoline, and (iv) purchases of various goods and products being the compartments into which expenditures were separated.

The largest single expenditure for most ecotourists when they arrive at a destination is lodging/accommodations. Average expenditures of \$20 per night per person for motels and \$5 per person per night for camping were used. The total number of visitors used was 39,750. Using these figures, an estimated \$293,951 was spent on camping and \$588,300 on motels, for a total of \$882,251 for lodging.

The second largest expenditure is usually food. Assuming an average meal price of \$4 per meal, this amounts to a total of \$298,061 by visitors.

When asked if they had purchased gasoline, 90.9% responded that they had. Assuming that an average tank of gasoline costs about \$5, total spending by visitors to Malheur on gasoline was \$180,664.

low. \$5

A large majority (92.8%) of respondents made purchases in the Malheur area. Purchases fell into five primary categories: groceries, clothing, books, souvenirs, small items, and other items. The average amount spent was \$45. Slightly more than one-third (35.6%) purchased groceries, with "small items" being the next most common purchase (21.2%). This amounts to \$1,659,960 per year.

The total economic impact of these compartments totals \$1,360,976 million per year without "other purchases" and \$3,020,936 million with those purchases. How does this compare to the economic impact of ecotourists/birders at other locations where this impact has been studied? Table 2 summarizes the visitation and economic impact at several other sites in the United States and one site in Canada. Malheur does not attract as many birders as do some of the other sites, but the economic impact may be as great.

For the communities surrounding Malheur NWR, every refuge visitor is worth between \$45 and \$87 in direct economic impact, depending on whether other purchases are included in the calculations. This is similar to a value of \$100 estimated for Cape May, New Jersey, and \$56 for both Point Pelee, Ontario, and Hawk Mountain, Pennsylvania (Table 2).

The reader will note that conservative numbers were used in most of the analyses. The reason for this is to insure that the data cannot be assailed by skeptics. It should be remembered that this is a first and "rough" approximation. Sophisticated fine tuning of the models presented here might reveal numbers that differ slightly. However, the estimates given here are probably robust and are similar to those reported from other

areas where this type of study has been done (Eubanks et al. 1993, Hvenegaard et al. 1988, Kerlinger and Wiedner 1991, Kerlinger and Brett 1994, Lingle 1991).

In most studies of the economic impact of tourism a multiplier is used. The purpose of an economic multiplier is to show how the base-line economic input to a community (absolute dollars coming into the community) is actually translated into a larger economic gain. For example, if an ecotourist purchases \$45 worth of shirts (\$30) and groceries (\$15), the owner of the grocery store and the apparel store can spend those dollars again. After paying a wholesaler and overhead, the retailer can spend his profit for children's clothing, tuition, or gasoline. These, in turn, result in profits for other businesses. The original \$45 is spent within and outside of the community and translates into a much larger number, depending upon the economic situation at that site.

This study uses no economic multipliers. Standard economic multipliers range from a little over 1.0 to more than 2.4 (national average). The Texas Department of Commerce's Tourism Division uses a weighted multiplier of 1.65 for the state for possible use by others. If a multiplier of 1.5-2.0 is used for the Malheur area, ecotourists account for an economic impact of \$1.04 - \$6.04 million per year.

Although Malheur area businesses receives only a portion of the expenditures of ecotourists who visit the area, it is enlightening to consider how much these visitors spend during their entire trip. This amount is greater than found in Table 1. A person traveling from Lane County or New York to see Malheur's beauty may spend as much money before and after they reach the refuge. These expenditures will be on travel (gasoline, wear and tear to automobile, etc.), food, lodging, film, camping equipment, binoculars, etc.).

The most frequent response was between \$101 and \$300 (41.5%), with between \$1 and \$100 being the next most frequent. Thirty-eight (10.6%) respondents stated that they spent greater than \$500. An average of just greater than \$300 was spent by the 357 respondents to this question. Entire trip expenditures thus totalled \$12.3 million. Compared to a study at High Island, Texas, (Eubanks et al. 1993) where birders spent slightly less than \$700 during their entire trip, this average of \$300 is relatively low.

### **Assessment of Birding Ecotourism Impact and Recommendations**

Birders and other ecotourists provide an important and sizable economic source of revenue to the area around Malheur National Wildlife Refuge. The economic impact of the 39,750 plus ecotourists should be recognized by local business as an important contribution to the community. Without the national wildlife refuge, several millions of dollars would not boost the local economy each year. This does not include the budget for the actual refuge, which goes into local salaries and the pockets of local vendors. The refuge is a magnet that will continue to draw tourists from great distances.

If there is interest in increasing the amount of ecotourism from birders to the refuge area, two avenues are available. The first is to encourage more people to visit the refuge, especially during the slower seasons. The second is to encourage people to visit the refuge area for longer periods of time. Extending a stay for a day or two would add significantly to the revenue generated from ecotourists.

Perhaps the best strategy for bringing more people to the refuge area, would be to have them come during the migration seasons. The Spring Bird Festival in Burns is a great beginning. Spring migration during late March and April, and autumn migration in September and October seem to be months when fewer ecotourists visit the area than during summer. These months afford the best opportunities for watching many types of migrating birds.

The fact that a large number of people responded that birding was not their only interest in the Malheur NWR area shows that other natural features in the area offer potential for ecotourism development. Advertising the other natural attributes of the area to visitors and to outsiders, might result in a larger number of people coming to the Malheur area at different times of the year and, or it could make people extend their trips to the area. Both will lead to greater revenue generation for the communities surrounding the refuge.

A carefully designed marketing strategy would greatly enhance the prospect of ecotourism growth in the Malheur area. Emphasis in tourism advertising should continue to focus on the great birding opportunities at Malheur, but should also reflect the fact that the scenery is beautiful (visual and photographic potential), other wildlife is abundant (deer, antelope?), with other opportunities in geology (rock hounds), hiking, and botanizing. All of these activities are compatible with the abundant open space in the area that should be viewed as a tourist and recreation attraction. Such resources need protection because they will continue to provide revenue through tourism.

In addition to encouraging more ecotourism, prevention of economic "leakage" would increase profits of local businesses. Because many ecotourism destinations are far from communities or businesses, there is little opportunity to purchase things or spend money. When tourists take their dollars to communities that are 50 or 100 miles from a destination, it is called leakage. Local businesses are advised to determine what they could offer to ecotourists so that they might capture more of their dollars. For birders, the types of saleable items (goods and services) are often quite specific (Wiedner and Kerlinger 1990). Businesses that cater to birders are now thriving in places like Cape May, New Jersey, and Hawk Mountain Sanctuary, Pennsylvania.

Although the primary message of this report is economic in nature, readers should also realize that there is a message about environmental ethics. Ecotourism is a form of sustainable economic development that depends on clean, open space, and an abundance of wildlife. Without these things, the tourists will not come, nor will their dollars benefit

the community. Businesses and other citizens of the refuge area should recognize that a healthy environment translates to a healthy economy. It is in their hands how they wish development to proceed in the area. By interacting positively with the refuge staff and federal officials, and encouraging additions to the refuge, the local citizenry will ensure a higher quality of life than if the refuge was not present.

(For specific information on marketing strategies, advertisement advice, and retail merchandising for ecotourists and birders, contact Paul Kerlinger, the author of this study.)

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Table 1. Summary of expenditures of birders/ecotourists visiting Malheur National Wildlife Refuge during June 1993 - May 1994. Calculations are based on the responses of 481 visitors. 39,750 was the number of birding ecotourists at Malheur NWR used for calculations. For percentages, see Appendix II or text.

Expenditure	Calculation	Amount
Lodging		
Motels	$37.9\% \times 39,750 \text{ visitors} \times 2 \text{ nights} \times \$20 \text{ per night}$	\$ 588,300
Campsites	$49.3\% \times 39,750 \text{ visitors} \times 3 \text{ nights} \times \$5 \text{ per night}$	\$ 293,951
	Total	<u>\$ 882,251</u>
Meals	$72.1\% \times 39,750 \text{ visitors} \times 2.6 \text{ meals} \times \$4 \text{ per meal}$	\$ 298,061
Gasoline	$90.9\% \times 39,750 \text{ visitors} \times \$5 \text{ per person}$	\$ 180,664
	Total	\$1,360,976
Purchases	$92.8\% \times 39,750 \times \$45 \text{ per person}$	\$1,659,960
Total		\$3,020,936

Table 2. Comparison of visitation and economic impact of ecotourists/birders at Malheur National Wildlife Refuge with other North American sites.

Study Site	Visitors per Year	Annual Economic Impact
Malheur National Wildlife Refuge	39,750	\$ 3+ million
Cape May Peninsula, New Jersey	100,000	\$ 10+ million
Hawk Mountain Sanctuary, Pennsylvania	53,000	\$ 2-4 million
Platte River Crane Area, Nebraska	80,000	\$ 80 million*
High Island, Texas	6,000	\$ 2.5 million*
Point Pelee National Park, Ontario	57,000	\$ 3.2 million

\* Includes travel expenses to and from area.



## MALHEUR NWR BIRDING SURVEY

Date \_\_\_\_\_

Thank you for participating in this survey. The results will be used to determine the economic and social impact of birding on the Malheur area and to learn more about the birders who visit Malheur NWR so that we may serve them better. Please do not sign the questionnaire.

1. Is this your first visit to Malheur for birding? Yes\_\_\_ No\_\_\_
2. Do you ever purchase a duck stamp? Yes\_\_\_ No\_\_\_
3. If you will be visiting other birding sites during your visit to or from Malheur, please list them. \_\_\_\_\_  
\_\_\_\_\_
4. How many people (including you) are in your party? \_\_\_\_\_ (If you are with a tour, which one? \_\_\_\_\_)
5. If you are here with your spouse, what is your spouse doing during the trip? \_\_\_\_\_
6. If you are not a resident of eastern Oregon, how many days will you be staying in the Burns/Frenchglen area during your visit (within 50 miles)? \_\_\_\_\_
7. Are you staying at a motel, hotel, campsite, bed and breakfast, (circle one),  
or other accomodation (please specify)? \_\_\_\_\_
8. Name of the hotel, motel, or campsite. \_\_\_\_\_
9. How many nights are you staying (or will you be staying) there? \_\_\_\_\_
10. Did you or will you dine at any restaurants, fast food or deli type establishments in the Malheur area (within 50 miles)? Yes\_\_\_ No\_\_\_
11. How many meals did (or will) you purchase during your stay near Burns/Frenchglen? \_\_\_\_\_
12. Which restaurants/takeout establishments did you or will you patronize? (names)  
\_\_\_\_\_
13. Did you or will you buy gasoline in the Malheur area (within 50 miles)? Yes\_\_\_ No\_\_\_
14. Did you (or will you) purchase anything other than services during your trip to the Malheur area?  
Yes\_\_\_ No\_\_\_
15. If your previous answer was yes, please list the items and their value. \_\_\_\_\_  
\_\_\_\_\_
16. What type of binoculars do you own (include power and model, for instance 7x42 Zeiss, armored)?  
\_\_\_\_\_
17. Do you have any interests in the Malheur area other than birding. Yes\_\_\_ No\_\_\_  
If yes, please specify. \_\_\_\_\_

(over)



## 1. First Visit?

	YES	NO
Jan	4	4
Feb	0	4
Mar	7	13
Apr	22	32
May	39	51
Jun	32	51
Jul	40	22
Aug	27	23
Sep	27	33
Oct	14	13
Nov	8	3
Dec	3	9
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Tot	223	258

## 3. Other birding sites:

## Top Five:

HART MT	30
WATH FOREST	21
IELDS	14
SUMMER LAKE	12
ALOURD DESERT	11

Total Sites 52

No Sites Listed 315

## 5. Spouse?/Spouse doing?

BIRDING	187
SAME AS ME	30
(non-birder)	
SIGHTSEEING	12
READING	4
OTHER	8
	---
RESPONSES	241

## 2. Purchase duck stamp?

YES	145
NO	333
BLANK	3
	---
TOTAL	481

## 4. People in party?

ONE	65
TWO	142
3-6	244
7-9	8
10-15	8
> 15	10
BLANK	4
	---

TOTAL 481

AVERAGE 3.4  
(for > 1)

## 6. Days staying in area?

ONE	38
TWO	127
THREE	115
4-10	135
> 10	8
BLANK	58
	---

TOTAL 481

AVG DAYS 3.4  
(for 423)

7/8. Accomodations?  
-----

## Top fifteen:

PAGE SPRINGS (c)	100
MALHEUR STATION (m)	61
FRENCH GLEN HOTEL (h)	49
MOTEL 6 (m)	24
DIAMOND HOTEL (h)	23
PRIVATE RESIDENCES	16
FISH LAKE (c)	15
ROYAL INN (m)	15
SILVER SPUR (m)	15
CAMPER CORRAL (c)	14
BEST WESTERN (m)	13
REMOTE CAMP SITES (c)	13
ORBIT MOTEL (m)	9
PONDEROSA (m)	9
IDLEWILD (c)	7

## Accommodation types:

CAMPING	244
HOTEL/MOTEL	183
OTHER	32
BLANK	22
-----	
TOTAL	481

9. Nights accomodations?  
-----

## Camping:

ONE	49
TWO	78
THREE	53
4-10	52
> 10	5

-----  
TOTAL 237AVG  
NIGHTS 3

## Hotel/motels:

ONE	45
TWO	74
THREE	43
4-10	16
> 10	0

-----  
TOTAL 178AVG  
NIGHTS 212. Which restaurants?  
-----

## Top Five:

FRENCH GLEN HOTEL	128
JERRY'S	40
YE OLDE CASTLE	34
PINE ROOM	22
DIAMOND HOTEL	19

10. Meals? / 11. Number?  
-----

## Purchase:

YES	347
NO	121
BLANK	13

-----  
TOTAL 481

## Number:

1-3	198
4-6	97
7-9	31
> 10	12
BLANK	143

-----  
TOTAL 481AVG (for 338) 3.7  
AVG (for 481) 2.613. Purchase gas?  
-----

YES 437

NO 34

BLANK 10

-----  
TOTAL 481

14. Other Purchases?

-----		
YES	437	
NO	34	
BLANK	10	
-----		
TOTAL	481	

15. What purchased?

-----	
GROCERIES	116
CLOTHING	53
BOOKS	38
SOUVENIRS	27
SMALL ITEMS	69
OTHER ITEMS	23
-----	
AVERAGE SPENT	\$45

16. Bins type and power?

-----

Top ten:

BUSHNELL	92
NIKON	79
BAUSCH & LOMB	33
ZEISS	33
TASCO	30
SWIFT	27
MINOLTA	25
LEITZ	11
JASON	9
LEICA	8

Power:

SEVEN	159
EIGHT	71
TEN	109
OTHER	33

Total Types: 29

Other interests?

-----

YES 341

NO 114

BLANK 26

-----  
TOTAL 481

Top Five:

SCENERY	82
WILDLIFE	77
GEOLOGY	75
HIKING	58
BOTANY	48

18. Transportation?

-----

CAR 444

AIR 15

BLANK 22

-----  
TOTAL 481

19. Rent car?

-----

YES 18

NO 428

BLANK 35

-----  
TOTAL 481

20. \$ Spent on trip?

-----

ZERO	3
1 - 100	108
101 - 300	148
301 - 500	63
501 - 1000	29
> 1000	9
BLANK	121
-----	
TOTAL	481

AVERGAGE

(w/zero = 363)	\$307
(w-o/zero = 360)	\$309

11-Jul-94

## MALHEUR ECONOMIC SURVEY DATA

## 21. Sex?

-----

MALE	235
FEMALE	217
BLANK	29
-----	
TOTAL	481

Average MALE 44  
Age: FEMALE 43

## 22. Age?

-----

< 21	10
21-30	54
31-40	124
41-50	134
51-60	66
61-70	39
> 70	8
BLANK	46
-----	
TOTAL	481

## 23. Retired?

-----

YES	75		
NO	363		
BLANK	43		
-----			
TOTAL	481		

  

AVG AGE	RETIRED	NOT RETIRED
MALE	63	40
FEMALE	61	41
ALL	62	40

## 25. Permanent residence?

-----

OREGON	253	ALABAMA	1
WASHINGTON	80	ARIZONA	1
CALIFORNIA	37	COLORADO	1
IDAHO	26	DELAWARE	1
NEW YORK	5	GEORGIA	1
MASSACHUSETTS	4	KANSAS	1
MICHIGAN	4	MAINE	1
N CAROLINA	4	NEW MEXICO	1
UTAH	4	OHIO	1
ALASKA	3	TEXAS	1
MINNESOTA	3	WYOMING	1
MONTANA	3		
NEVADA	3	B COLUMBIA	2
NEW JERSEY	3	ONTARIO	3
FLORIDA	2	AUSTRALIA	1
MARYLAND	2	SWTZERLND	1
TENNESSEE	2	BLANK	23
VERMONT	2	-----	
		TOTAL	481

TOTAL RESIDENCES 33

## 26. Oregon county?

MULTNOMAH	64
NE	46
DESCHUTES	20
CLACKAMAS	18
WASHINGTON	14
BENTON	13
HARNEY	10
MARION	10
JACKSON	8
YAMHILL	5
LINCOLN	4
BAKER	3
CLATSOP	3
COOS	3
DOUGLAS	3
LINN	3

MALHEUR	3
UNION	3
COLUMBIA	2
KLAMATH	2
POLK	2
CURRY	1
GRANT	1
JEFFERSON	1
JESEPHINE	1
LAKE	1
SHERMAN	1
TULAMOOK	1
UMATILLA	1
WALLOWA	1
BLANK	5

TOTAL 253

COUNTIES 30

## 27. Family income?

STUDENT	28
< 15K	18
15K - 25K	40
25K - 35K	67
35K - 50K	103
50K - 100K	141
> 100K	38
BLANK	46
-----	
TOTAL	481

## 28. Education level?

HIGH SCHOOL	27
JR COLLEGE	41
4YR COLLEGE	155
GRAD SCHOOL	235
BLANK	23
-----	
TOTAL	481

## 29. Days birding?

ZERO	39
1 - 15	158
16 - 30	84
31 - 50	68
51 - 100	36
101 - 200	12
> 200	28
BLANK	56
-----	
TOTAL	481

## 30. Overnight birding trips?

ZERO	129
1 - 3	185
4 - 6	55
7 - 9	8
10 - 15	26
> 15	15
BLANK	63
-----	
TOTAL	481

## AVERAGE

(w/zero = 425) 49  
(w-o/zero = 386) 54

## AVERGAGE

(w/zero = 418) 3.5  
(w-o/zero = 289) 5.0

11-Jul-94

MALHEUR ECONOMIC SURVEY DATA

31. State or national org?  
-----

Top eight:

NATIONAL AUDUBON	142
ABA	47
OREGON FIELD ORNITH	27
PORTLAND AUDUBON	17
NATIONAL WILDLIFE FED	7
WASHINGTON ORNITH SOC	5
NATURE CONSERVANCY	4
CORNELL LAB	4

TOTAL ORGS	34
------------	----

NO ORGS LISTED	267
----------------	-----

AVERAGE ORGS	
(for those > 0)	1.4
(for all )	0.6

33. Hunt?  
-----

YES	97
-----	----

NO	360
----	-----

BLANK	24
-------	----

TOTAL	481
-------	-----

32. National Wildlife Refuges?  
-----

Top Five:

KLAMATH FOREST	49
NISQUALLY	36
FINLEY	33
RIDGEFIELD	26
HART MOUNTAIN	22

TOTAL NWRs VISITED	75
--------------------	----

AVERAGE VISITED	3
(for those > 0)	

VISIT YES	242
-----------	-----

VISIT NO	239
----------	-----

34. Fish?  
-----

YES	191
-----	-----

NO	265
----	-----

BLANK	25
-------	----

TOTAL	481
-------	-----